



# G1000

ENERGY SUSTAINABILITY EDUCATION

**RENEWABLE ENERGY PROJECT DEVELOPMENT &  
SUSTAINABILITY EDUCATION CONSULTANTS**


**A CARBON NEUTRAL FUTURE**

**GLOBAL 1000 SCHOOLS PROJECT BV**

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**A CARBON NEUTRAL FUTURE**



THE VISION OF THE GLOBAL 1000 SCHOOLS PROJECT  
IS TO BRIDGE THE DISCONNECT THAT EXISTS IN  
LEARNING ORGANIZATIONS TURNING PRINCIPLES  
INTO PRACTICE - AND TO INSPIRE  
FUTURE GENERATIONS TO A NEW WAY OF  
THINKING AND CO-OPERATION

## VISION

Research shows that there is disconnect between the understanding of Sustainability Education and the implementation thereof. Concept Initiator Developer (CID), Michael Doyle, has a vision that for Sustainability to become the new 'collective will' requires learning organizations to not only adopt it as an embedded part of education, but to also demonstrate the theory in action. The vision of the Global 1000 Schools Project is to bridge this disconnect and inspire future generations to a new way of thinking and co-operation.

## INSPIRE

Essential to the vision is the inspiration that learning organization can bring to not only learners, but also to other stakeholders such as parents, their supply chain, and community. In order to do so, learning organizations will embed Sustainability in their curriculum, and equally importantly, demonstrate the practice of Sustainability. Furthermore, the learning organization has the opportunity to develop its renewable energy program with partnerships with their stakeholders in order to expand the network of sustainable practice.



## EXPERTS

Central to the development of G1000 success is the research and development component. This requires expert knowledge for the development of the correct renewable energy and efficiency technologies. Furthermore, expert knowledge is required to illustrate the benefits of the energy switch to the learning organization, and its stakeholders, as well as the associated impacts on the natural environment.

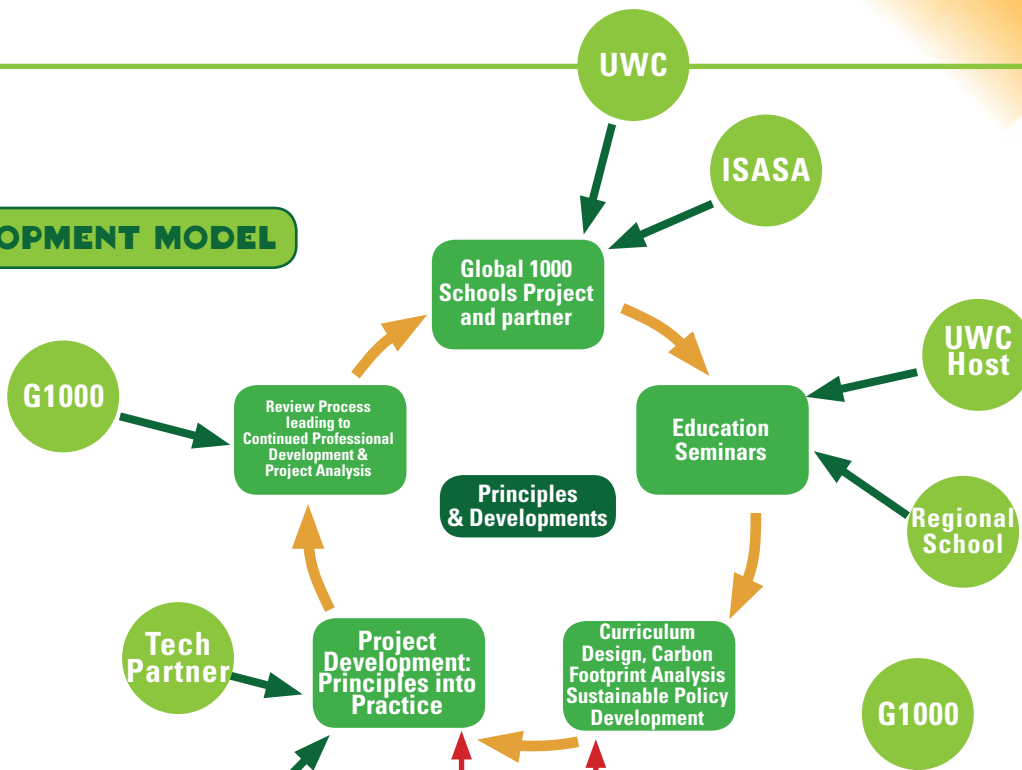
## ENABLERS

Actioning a vision requires not only a collective will and expertise, but also the core component of funding. An intelligent collective of like-minded financial sustainability experts are the enablers of the vision: and with their funding models are the key to G1000 unlocking the learning organization's sustainability goals.

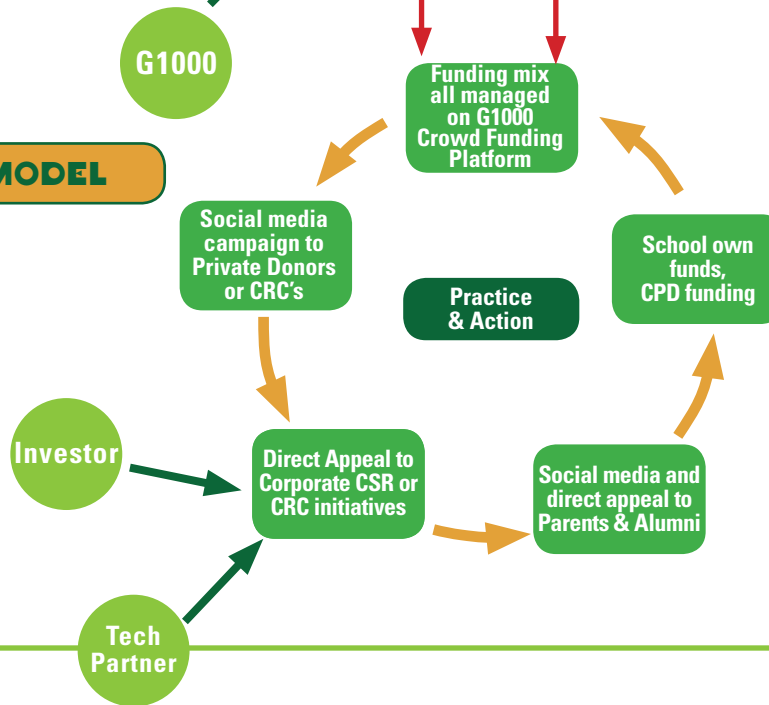


# BUSINESS PLAN







## DEVELOPMENT MODEL



## FINANCIAL MODEL



## ABOUT US

-  We believe that **Sustainability** starts with **Education**
-  We believe that Educators, Students and Management at learning organizations should be **united** in the drive
-  We believe that curriculums should reflect **cross curricular** education
-  We believe that learning organizations should close the gap and turn sustainability **Principles into Practice**
-  We believe that third party stakeholders such as parents, alumni, suppliers, the corporate community and government should be **part of the solution.**
-  We believe that education combined with thousands of projects in thousands of learning organizations will lead to **systemic change**

## WHO WE ARE

We are thousands of **champions** in thousands of schools driving systemic change through thousands of projects. We are educators, students, managers, parents, alumni, suppliers, corporates, and funding champions.

We are driven through the **intellectual consensus** of all our funding champions who fund our program through their combined analysis of our well researched projects and ratification thereof by their giving and investing.

We are managed by our consultants who, after **careful research**, bring submitted projects to the attention of our funding champions. **They are:**

**Michael Doyle**  
Futurist Founder



**Tamzin Ractliffe**  
Sustainability for Educators and Youth



**Sindhu Clark**  
Sustainability for Youth



**Alexei du Bois**  
Sustainability for Youth



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## FOUNDER



### Michael Doyle

BComm, PGDip (Futures Studies)

Michael is the concept initiator and developer of the Global 1000 Schools Project (G1000), a project being developed to lead 1000 schools to Carbon Neutrality. This involves many

stakeholders including national and local government, local and international investors, and co-ordination of EPC's (energy, procurement and contracts). The project is closely aligned with the Independent Schools Association of Southern Africa (ISASA), and the Education Sustainability Leadership Program (ESLP) which is backed by the Cambridge Institute for Sustainability Leadership (CISL). The Proof of Concept for G1000 was developed at Waterford Kamhlaba, United World College of Southern Africa, Mbabane, Swaziland where Michael was employed as the Eco Estate Manager.

Michael's passion for the environment and sustainability was reflected in his shift in focus from the corporate sector to that

of environmental education during the autumn of 2011. This culminated in his construction and management of the Kamoka Bush School in 2011 (in conjunction with St Stithians College), and informed his career path from thereon.

His shift in focus also led to a Post Graduate Degree in Futures Studies at the University of Stellenbosch Business School in 2015. It was here that he developed the core disciplines required for leadership and the understanding of the world and its future pathway.

In order to further his ability to educate on Sustainability and Leadership, Michael has also studied: Sustainability in Practice: University of Pennsylvania,

Climate Change in Four Dimensions: University of California, The Science of Climate Change: University of Chicago, How to Change the World: Penn State University

## CONSULTANT



### **Tamzin Ractliffe**

Founder Routes to Resilience  
and Impact Trust

Tamzin has worked across the public, private and civil society sector providing advisory services and training in high impact solutions for sustainable development.

The founder of GreaterCapital and GreaterGood SA (voted one of the Top Ten most trusted NGOs in South Africa), she led the creation of the world's first social stock exchange board. She won the GIBS Social Entrepreneur of the Year Award in 2007, was appointed an Ashoka Fellow in 2008 and won the Thomson Reuters 2012 TrustLaw Innovation Award for her efforts in designing "an ambitious, landmark project with the potential to facilitate the evolution of the entire social and impact investment sector".

With undergraduate degrees in Commerce and Science, an Honours in Applied Psychology and a Masters in Climate and Development Tamzin's more recent focus on multiple literacies and their connection to the enactment of citizenship intersects with her work promoting sustainability leadership and "Routes to Resilience" in education.

Tamzin led the implementation of an Integrated Studies curriculum for secondary school youth in South Africa and has supported educators in order to identify routes through which curriculum content and sustainability can align to promote youth leadership in sustainability practice.

## CONSULTANT



### Sindhu Clark

Sindhu holds a Masters in microbiology and began teaching Chemistry and Environmental Systems at UWC India in 1998, acting also as a volunteer nature orientation and leadership instructor for WWF. Enjoying the trans-disciplinary approach, she co-pioneered (with Howard Gardner's Harvard Project Zero) the first trans-disciplinary IB Extended Essay: World Studies.

She is a published photographer of wilderness flora and fauna, and it was Sindhu's pictures that clinched the board's decision in 2007 to convert 120 acres of the campus into a biodiversity and conservation reserve.

Her responsibilities grew to include oversight of this, and here, she designed the YES (Youth, Environment, Sustainability) UWC summer programme.

After 14 years at UWC Mahindra, Sindhu explored another Indian 'biodiversity hotspot' as curriculum designer and workshop facilitator for Hanifl Centre for Outdoor Education in the Himalayas. Here, she also lectured for University of Pittsburg's study abroad programme and spent three years integrating environmental education into school and university courses and curricula.

Experienced at securing fruitful partnerships between NGOs and institutions of learning, in recent years, courses at Schumacher College (UK) have enriched Sindhu's commitment to sustainability education.

Now head of Science at UWC Southern Africa (2015), she integrates her years of experience as an examiner and IB workshop leader, and plans to continue to promote sustainability education by initiating UWC certificate courses in permaculture.

## CONSULTANT



### Alexei du Bois

Alexei is the Director of Studies at Peponi School in Kenya whilst also completing a PhD in Education at the University of

Oxford as a Commonwealth Scholar, focusing on Education for Sustainable Development practices in various Southern African countries. He has worked on policy contributions for UNESCO, DFID and World Bank projects, and was selected as a consultant for a British Council project on English language teaching in Mexico.

Before coming to Oxford, Alexei was a teacher in Cape Town where he directed the Luleka Exchange Programme in his time spent outside the classroom – a multi-school partnership that facilitated curriculum exchange, professional development, fundraising and infrastructure development, as well as leadership capacity building in both disadvantaged and fee-paying South African public schools.

## TECHNOLOGY PARTNER

SOLARWOOD

[www.wundersight.co.uk](http://www.wundersight.co.uk)

### **Miriam Mesas** **Founder of Wundersight and SolarWood**

As the main shareholder of Planeta Vibrante, Miriam is the entrepreneur developing the Solarwood project. Miriam currently resides in the United Kingdom, where she participates in the management of an international group of companies, grouped under the Wundersight brand, dedicated to the development, execution and operation of renewable energy projects.

### **Jorge Dot** **Founder of Wundersight and SolarWood**

Founding partner of Wundersight Company and Director of Planeta Vibrante. Jorge is an Industrial Engineer with extensive experience in industrial consulting and business development in the field of renewable energy with different technologies and in different markets and countries. Jorge consults on and develops renewable energy projects across the world including the UK, Spain, South Africa, Kingdom of Eswatini, Costa Rica and Portugal.



# EDUCATION ASSOCIATION

## UNITED WORLD COLLEGES

[www.uwc.org](http://www.uwc.org)

*UWC (United World Colleges) is a global education movement that makes education a force to unite people, nations and cultures for peace and a sustainable future.*

Central to the ethos of UWC is the belief that education can bring together young people from all backgrounds on the basis of their **shared humanity**, to engage with the possibility of social change through courageous action, personal example and selfless leadership. To achieve this, UWC schools and colleges all over the world deliver a challenging and transformational educational experience to a **deliberately diverse group of young people**, inspiring them to become agents of positive change in line with UWC's core values:

- **International and intercultural understanding**
- **Celebration of difference**
- **Personal responsibility and integrity**
- **Mutual responsibility and respect**
- **Compassion and service**
- **Respect for the environment**
- **A sense of idealism**
- **Personal challenge**
- **Action and personal example**

Today, UWC has **17 schools and colleges on 4 continents**, the majority of which focus exclusively on the 16-19 year-old age group: a time when young people's energy and idealism can be guided towards empathy, responsibility and lifelong action.

These colleges teach the **International Baccalaureate (IB) Diploma** as their formal curriculum, a qualification that UWC played a major part in developing, while also emphasising the importance of experiential learning, community service and outdoor activities.

UWC college students are selected domestically, in more than 155 countries, through UWC's unique national committee system. Selection is based on demonstrated promise and potential.

In accordance with the UWC ethos that **education should be independent of the student's socioeconomic means**, 70% of students in their IB Diploma years receive either full or partial financial assistance, based on their needs.

# EDUCATION ASSOCIATION

## THE IMPACT TRUST AND ROUTES TO RESILIENCE

[www.impacttrust.org.uk](http://www.impacttrust.org.uk)

The Impact Trust is a registered charity and public benefit organisation dedicated to advancing sustainable development by promoting sustainability leadership in practice.

Our Routes to Resilience programmes support the integration of sustainability principles in education, enabling the development of leadership skills in effective sustainability practice and encouraging the enactment of global citizenship for a more resilient future.



## EDUCATION ASSOCIATION

### INDEPENDENT SCHOOLS ASSOCIATION OF SOUTHERN AFRICA

[www.isasa.org](http://www.isasa.org)

The Independent Schools Association of Southern Africa is the largest and oldest association of independent (private) schools in the Southern African region. ISASA traces its origins to the Conference of Headmasters and Headmistresses, originally formed in 1929.

ISASA has more than **760 school members in South Africa, Botswana, Swaziland, Namibia, Angola, Lesotho, Mozambique and Zambia**. Over 168,000 learners attend ISASA-affiliated schools.

ISASA is a non-profit, voluntary association and schools elect to apply for ISASA membership. Each member school pays an annual subscription fee and, in return, ISASA provides its members with a range of services. These include financial, advocacy, school best practice, professional development and other services.

ISASA does not own or manage any individual schools and is not a governing body for private schools.

ISASA's vision is of a Southern Africa in which quality education is available to all learners, the value of independent education in contributing to this goal is recognised, and a value-based, public-spirited community of diverse, high quality independent schools is developed





# SERVICES AND PROGRAMS FOR SUSTAINABLE FUTURE

## TITLE

## CONTENT

ANY OF OUR SERVICES AND PROGRAMS CAN OPERATE AS STAND-ALONE INITIATIVES, OR FORM PART OF AN ORGANISATIONS COMPREHENSIVE DRIVE TOWARDS A LONG TERM SUSTAINABLE FUTURE

### SUSTAINABILITY POLICY DEVELOPMENT

Part of any organisational Strategic Policy is the development of a Sustainability and Management Policy through a series of workshops with up to 15 interested stakeholders in each workshop, feedback sessions, compilation of draft documents and submission of final policy statement.

*Expected time frame 2 months from start date.*

### SUSTAINABILITY ESSENTIALS FOR EDUCATIONAL

The Sustainability Essentials for Education Organisations course is designed to help build a common understanding of sustainability within organisations at scale. For Organisations to respond effectively to the rapidly changing social, environmental and economic context requires transformational change. This cannot be achieved by sustainability experts and senior management acting alone.

Sustainability Essentials for Education Organizations helps managers and educators better understand global sustainability trends and effective responses and actions. Supporting learning, innovation and leadership, the sustainability course will help your team identify areas of personal and professional relevance within their sphere of influence.

The sustainability training is a cost effective way of building a common understanding of sustainability across your teams and organisation. It's learner-centric design, that once the two day workshop is completed, allows users to continue to learn in their own time.

## SERVICES AND PROGRAMS FOR SUSTAINABLE FUTURE

### TITLE

#### CARBON FOOTPRINT ANALYSIS: SCOPES 1&2

### CONTENT

Expanding the influence of an organisation requires an analysis of the Scope 3 carbon emissions, for example client travel emissions, incurred by identified third party stakeholders. This includes proposals for mitigation of these expenses for inclusion into the organisational Strategic Framework.

*Expected time frame 6 months from start date.*

#### CARBON FOOTPRINT ANALYSIS: SCOPES 3

Expanding the influence of an organisation requires an analysis of the Scope 3 carbon emissions, for example client travel emissions, incurred by identified third party stakeholders. This includes proposals for mitigation of these expenses for inclusion into the organisational Strategic Framework

*Expected time frame 6 months from start date.*

#### FUTURE ANALYSIS OF NATIONAL ENERGY MIX

Futures Planning for the development of a Carbon Neutrality Program which analyses the contextual framework in which the organisation operates. For example, What is government's energy mix now and in the future? What are proposed Legal & Governance issues that could affect the organisation? What opportunities exist for organisation investment into programs?

*Expected time frame 3 months from start date*

#### PROJECTS

Development of Organisation Projects intended for the utilisation of space for generation of renewable energy, development of energy efficiencies, etc. For example, the creation of a new playground/exercise facility that uses the kinetic energy of students/staff to generate power; the development of solar PV designs and the impact on Organisation energy use and finances; etc.

*Expected time frame: Project dependant*

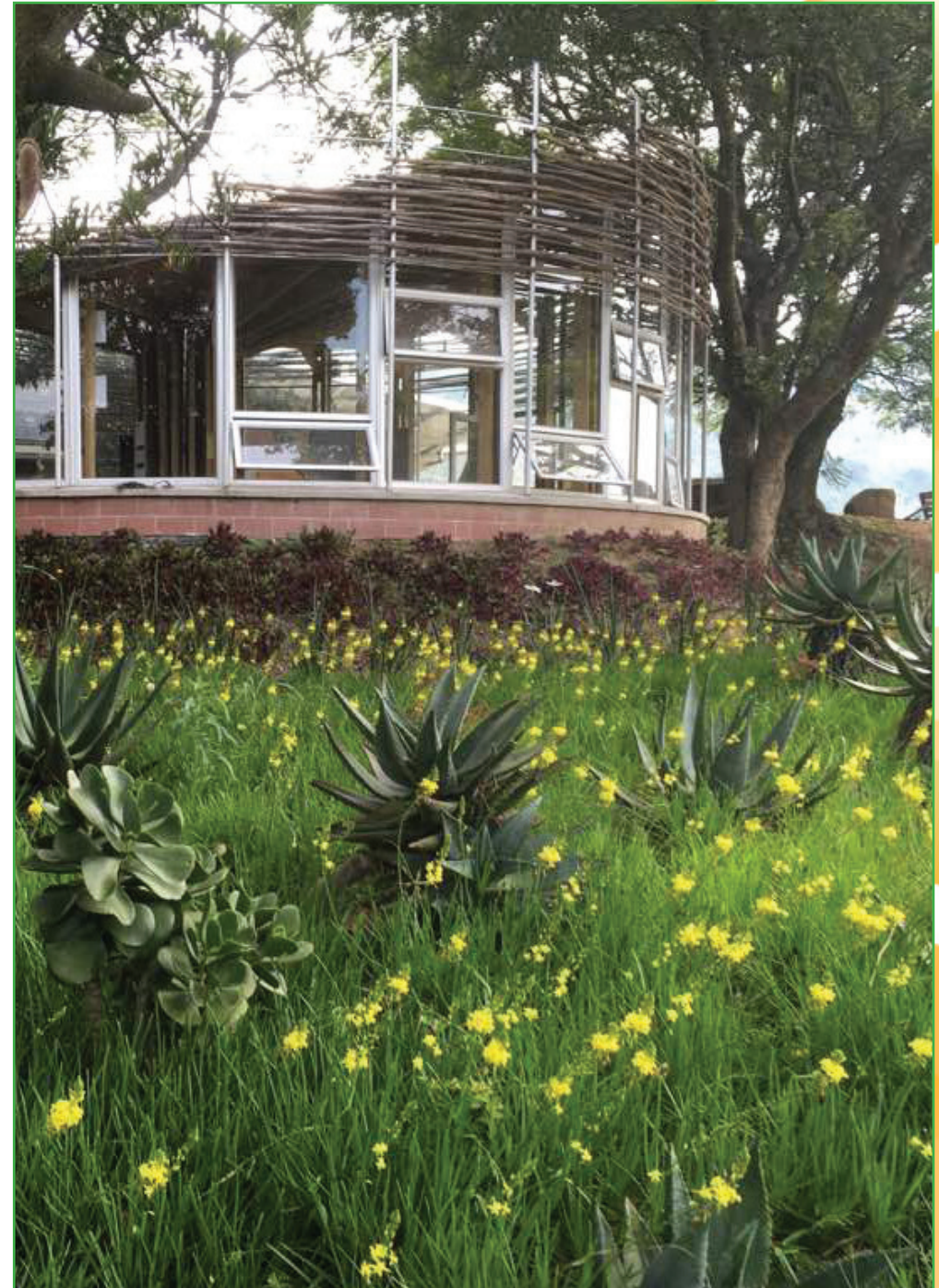
## PROJECT SUMMARIES

### WATERFORD KAMHLABA SWAZILAND

Waterford Kamhlaba, located in Swaziland, has the potential to host a range of sustainable technologies supplied by leading innovators, and to simulate core disciplines of Energy, Water, Reforestation and Waste 'hybrid' solutions.

This model, once commissioned, and proving the technologies indeed work, together with favourable returns on investment, can then be replicated on a larger scale, into other learning organizations or a municipality.

A 'real life' working Innovation Centre will exist, showcasing the components of Renewable Energy and other technologies utilized.



## PROJECT SUMMARIES

### WATERFORD KAMHLABA SWAZILAND

The following projects have been completed:

- **PHOTOVOLTAIC**

Grid & Off Grid Energy System Hybrid with Waste-to-Energy plant - pilot phase of 22kWp solar PV completed

- **WATER RECYCLING AND SEWAGE CAPTURE**

water harvesting project completed making the college sustainable. Reforestation and Feeder Stock for Biomass - bidigester for food waste installed

- **ENERGY AND EDUCATION HUB**

Completed

### WATERFORD IS NOW INVITING FUNDING FOR THE NEXT EXCITING PHASE OF OUR SUSTAINABLE DEVELOPMENT:

- the installation of approximately 200kWp rooftop solar PV on 9 different roofs.



# UWC PROJECT COSTS

## UNITED WORLD COLLEGE PROJECTS REQUIRING FUNDING

NAME	LI PO CHUN	ROBERT BOSCH	UWC MAASTRICHT	WATERFORD KAMHLABA	MAHINDRA UWC	ATLANTIC COLLEGE	UWCT	UWC CHANGSHU	RED CROSS NORDIC	TOTAL OF PROJECTS	Indicative Budget	
LOCATION	HONG KONG	GERMANY	NETHERLANDS	SWAZILAND	INDIA	WALES	THAILAND	CHINA	NORWAY			
CARBON FOOTPRINT ANALYSIS	YES	YES	COMPLETED	YES	COMPLETED	YES	COMPLETED	YES	YES	6	66 000	WILL IDENTIFY FURTHER PROJECTS
SUSTAINABLE POLICY DEVELOPMENT	YES	YES	YES	YES	YES	YES	YES	YES	YES	9	44 550	WILL EMBEDD POLICY
FOREST AND ECOSTEM REGENERATION FOR CARBON OFFSET	YES	YES	YES	YES	YES	YES	YES	YES	YES	9	550 000	SEQUESTER 1.4 TC02E PER ACRE ANNUALLY.
PERMACULTURE FARM DEVELOPMENT AND OUTDOOR EDUCATION			YES	YES	YES	YES		YES			55 000	
IB CURRICULUM DEVELOPMENT	YES	YES	YES	YES	YES	YES	YES	YES	YES	9	75 000	IMPACT IS INCALCULABLE - 2000 GRADUATES
ROUTES TO RESILIENCE SEMINAR - EDUCATORS AND STUDENTS	YES	YES		YES	YES		YES	YES		6	65 000	COULD BE COMBINED PER REGION
ROUTES TO RESILIENCE SEMINAR 2 - COMPLEXITY AND SYSTEMS						YES				1	10 000	
SOLAR PV ROOFTOP (KWP)			120	200		140	250	100	100	910	1 092 000	CARBON CREDITS CALCULATED BY PROJECT
SOLAR PV GROUND ARRAY (KWP)				400	200					600	720 000	CARBON CREDITS CALCULATED BY PROJECT
OTHER SOLAR	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9	90 000	CARBON CREDITS CALCULATED BY PROJECT
SOLARWOOD BIOMASS CONTAINER SOLUTION				200	200					400	1 400 000	CARBON CREDITS CALCULATED BY PROJECT
BIODIGESTER GAS					Yes					1	30É000	CARBON CREDITS CALCULATED BY PROJECT
LED, SMART TECHNOLOGY RETROFIT				Yes	Yes		Yes	Yes	Yes	5	55 000	CARBON CREDITS CALCULATED BY PROJECT
WASTE MANAGEMENT CENTRE			Yes	Yes	Yes		Yes			4	100 000	
											4 352 550	
G1000 PLATFORM FEE TO EXPAND THE G1000 PROJECT TO OTHER SCHOOLS										7%	304 679	
										<b>TOTAL</b>	<b>4 657 229</b>	

# MEASURING OUR IMPACT

## THE VALUE OF EDUCATION

In determining the impact of a project we look at not only the reduction in carbon emissions that the project may achieve, but also the impact that a project may have in achieving the Sustainable Development Goals. In order to do so, submitted projects need to ensure that they meet at least three of the Sustainable Development Goals of which **Goal 13: Climate Action is mandatory**.



## EXAMPLE OF DETERMINING A PROJECT'S IMPACT WHERE THERE ARE NO INITIAL QUANTIFIABLE FIGURES:




**PROJECT NAME: UNITED WORLD COLLEGE MAASTRICHT, NETHERLANDS**

**PHASE 1: COMPLETION OF UWCM CARBON MANAGEMENT PLAN**

This project will be used to determine the carbon emissions of the College. The methodology being used is that of a student led carbon footprint analysis facilitated by the Environmental Services and Societies department and an outside consultant. The organizational boundary of the College will be extended to include the travel related Scope 3 emissions for residential students, College tours and educators work related travel.

# OUTCOMES

## THE OUTCOMES OF THE CARBON MANAGEMENT PLAN ARE EXPECTED TO BE:

-  Determination of the carbon footprint of the College
-  Development of an ongoing annual carbon footprint analysis embedded into the academic curriculum
-  Development of mitigation and reduction strategies including education and awareness and identifiable infrastructure projects.

## PHASE 2: INSTALLATION OF ROOF TOP SOLAR PV ARRAY

Initial scoping of available roof space suggest that a rooftop array of 120kWp is viable. Based on confirmation of the Carbon Management Plan this will be identified as well as other strategies such energy efficiencies. Once these are identified a calculation on greenhouse gas reductions will be identified.

## IDENTIFIABLE SUSTAINABLE DEVELOPMENT GOALS:

Our Carbon Management Plan will identify actionable carbon reduction strategies. Energy savings created by our strategies will be ring fenced to impact invest into scholarship programs for deserving students (SDG 4).



Together with other scholarship strategies, embedding the Carbon Management Plan into our Sustainability Policy and Curriculum will ensure that future generations of Educators and Students have an embedded awareness of Sustainable Change.

With a favourable funding mix, not only will our self-generation of renewable energy be clean, but it will also be cheaper than our current fossil fuel based source (coal).

Serving as proof of Principles into Practice, our embedded curriculum followed up by actionable programs will inspire our stakeholders to strive for a future of sustainable communities.

It is our belief that involving our stakeholders in our vision for a carbon neutral future involves building partnerships. As we develop our Sustainability Programs we believe our influence will begin extending into the system we are aiming to change.